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NOTES AND LITERATURE.

ZOÖLOGY.

Kellogg's American Insects.¹— It is gratifying to observe the great progress that is being made in the science of entomology, and to welcome a book such as the author now brings before the public. While the biological side is strongly emphasized it is not overdone and we have the subject presented in a much broader sense than has perhaps ever been done in a single volume. It is written in a clear and popular style, and the fact that the species of economic importance are more fully treated adds much towards making the work of general interest. The 674 pages are illustrated by over 800 figures in the text and 18 colored plates, well selected to show the biologic, systematic, and economic features in the study of insect life.

The first chapter treats of the structure and special physiology of insects, and the second of the development and metamorphosis, followed by the classification and description of the various groups arranged under 19 orders, with keys to the families and many of the genera.

The student will naturally compare this work with that concise and well balanced volume, Comstock's *Manual*,— a work dearer to the hearts of American entomologists to-day than a year or two after its publication. While the new work is quite different in its general makeup, and of a more popular nature, it has not been edited with as much care, but, considering the size of the volume there are comparatively few mistakes, and those which might be misleading to the young student can be briefly noted as follows: on page 201 the figure of *Ranatra fusca* represents either an imperfect specimen, without wings, or an immature example; the respiratory tube is also poorly shown; Fig. 317 is a Micromus not Hemerobius; *Coptocycla aurichalcea*, Fig. 389, and *Cassida bicolor* mentioned in the text (page 281) are synonymous (the latter specific name is now used); Fig.

¹ Kellogg, Vernon L. *American Insects*. New York, Henry Holt and Co., 1905. 8vo, vii + 674 pp., 13 pls., 812 text figs. \$5.00.

463 is *Dasyllis sacrator*; Fig. 500 is *Sepedon fuscipennis* not *fascipennis*; Plate 12, Fig. 3, is *Synchloë reakirtii* not *genutia*; Plate 13, Fig. 3 is an *Elis* sp.; Figs. 681 and 682 undoubtedly represent the same species. Although questioned, it is hard to account for Fig. 684, which belongs to an entirely different family; the male of *Pelecinus polyturator* is figured in Packard's *Guide to the Study of Insects*.

Following the chapters devoted to the descriptions of the various orders is a very interesting chapter on insects and flowers in which the pollination of various plants by insects is described. A chapter on "Color and Pattern and their Uses" presents a subject open to much criticism. There is a tendency to carry the so called "mimicry," or preferably protective resemblance, beyond the limits of our everyday walks in the fields and woods, *i. e.*, to emphasize this feature by selecting the most pronounced forms from the fauna of the world and arranging them in museums regardless of their natural surroundings. The "dead-leaf butterfly" (*Kallima*) is very effectively arranged on a twig among the dried leaves of the elm or beech, but when we read that the butterfly usually alights on the trunk of the tree head downward, the charm is broken. Our various species of *Polygonia* (*Grapta*) and several groups of moths present fully as interesting examples of protective resemblance. A very instructive and timely chapter is devoted to insects and disease. The work concludes with an appendix on collecting and rearing insects.

C. W. J.

Kingsley's Elements of Comparative Zoölogy.¹—In this second edition of Kingsley's *Elements of Comparative Zoölogy* the most marked changes from the first edition (1897) are due to a rearrangement, the descriptive part being separated from the laboratory directions and brought together to form the last two thirds of the book, under the heading, in the table of contents, of "Systematic Zoölogy." This plan, which is that adopted by the same author in his *Comparative Zoölogy of Vertebrates*, would seem to be of distinct pedagogical value owing to the confusion in the student's mind arising from the discontinuity of the other arrangement. The questions for a tabular comparison of the forms studied and the groups to which they belong — an especially valuable feature — have been retained, and in a few cases somewhat extended. On page 108 there is a repetition of questions (3 and 7) which should be corrected.

L. J. C.

¹Kingsley, J. S. *Elements of Comparative Zoölogy*. Second edition, revised. New York, Henry Holt and Co., 1904. 8vo, x + 437 pp.